

CLAIMS

- Mark A*
1. A method for optical measuring systems, comprising a sensor element (6) connected to a measuring and control unit (10) via an optical connection (3) and being adapted for providing a signal corresponding to a measurement of a physical parameter (p) influencing the sensor element (6), said method comprising generation of a measuring signal that is brought to come in towards the sensor element (6), and detection of said measuring signal (B) in the measuring and control unit (10), after influencing the measuring signal in the sensor element (6), characterised by the method further comprising: partial reflection of the measuring signal at a point along the optical connection (3), located at a predetermined distance from the sensor element (6), detection of the intensity of the signal (A) corresponding to said partially reflected measuring signal, and determination of a measurement of said parameter (p) based upon the intensity of the partially reflected signal (A) and the intensity of the measuring signal (B).
2. The method according to claim 1, characterised by comprising: determination of a value corresponding to the quotient of the intensity (I_A) of said reflected signal (A) and the intensity (I_B) of said measuring signal (B), and determination of a measurement of said parameter (p) based upon said quotient (I_A/I_B).
3. The method according to claim 1, characterised by comprising: determination of a value corresponding to the difference between the intensity (I_A) of said reflected signal (A) and the intensity (I_B) of said measuring signal (B), and determination of a measurement of said parameter (p) based upon said difference (I_A-I_B).

4. A method according to any one of the preceding claims,
characterised by said measuring signal (B) being a light pulse.
5. A method according to any one of the preceding claims,
characterised by the feeding of the measuring signal into the sensor
element (6) causing optical interference in a cavity (6a) of the sensor element (6).
6. A method according to any one of the preceding claims,
characterised by being used for measuring pressure (p), said sensor
element (6) defining a membrane (6b), acted upon by the pressure (p) surrounding
the sensor element (6).
7. A method according to any one of the preceding claims,
characterised by being used for measuring the acceleration or the tem-
perature of said sensor element (6).
8. A method for optical measuring systems, comprising a sensor element
(6) connected to a measuring and control unit (10) via an optical connection (3) and
being adapted for providing a signal corresponding to a measurement of a physical
parameter (p) influencing the sensor element (6), said method comprising
generation of a signal which is brought to come in towards the sensor
element (6), and
detection of said signal in said measuring and control unit (10) after
influencing the measuring signal in said sensor element (6),
characterised by the method further comprising determina-
tion of a measurement of the length of said optical connection (3), based upon a
measured period of time elapsing from the generation of said signal until the detec-
tion of said signal.
- 30 9. The method according to claim 8, characterised by said
length determination being used for identification of the current type of sensor ele-
ment (6), said length of said optical connection (3) being selected to correspond to a
specific type of sensor element (6).

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